AMENDMENTS TO THE SPECIFICATION:

Please amend the first full paragraph of page 10 as follows:

In the example per Fig. 5, the use of a multisheet system of two nonmiscible liquids 12 and 13 makes use of the fact that the electrophoretic mobility depends not only on the mobility in the individual phases 12, 13, but also to a large degree on the ability to penetrate the phase boundary. To make the multisheet system in the microfluid chamber 2, one can proceed on the same principle as for micromixers, with the difference that the laminar flow changes to a no-flow system. Any electroosmotic flow can be compensated by a pressure-generated counterflow. The parameters to be considered for setting up a multisheet system are the wetting ability of the microfluid chamber's walls, the surface tensions at the phase boundaries, and the density of the individual liquids. Fig. 5 includes electrodes 6a, 6b.

Please amend the third full paragraph of page 10 as follows:

Figures 7a, b show an embodiment of the invented device as a biochip 1. For clarity, Fig. **[[**8a**]]** 7a shows an as yet unfilled biochip 1'. It consists essentially of a plate 8, which can also be called the substrate, in which recesses have been made, forming intake channels 7 on the one hand and the microfluid chamber 2 on the other. Not shown is a cover film, which closes over the intake channels 7 and chamber 1 on top. The intake channels 7 serve to supply the phases 12, 13 of nonmiscible fluids or gels (Fig. 7b). Depending on the application, there can also be more phases. Each intake channel 7 forms a sheet from the respective fluid or gel. Upon emerging from the intake channels 7, the sheets running parallel to each other abut against each other and form common phase boundaries 15. In the example shown in Fig. 7a, b, only one electrode pair 3a, b is provided, with its electric field parallel to the sheets. The number and kind of electrodes will be chosen as already discussed, according to the application.